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VIA ECFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Comments on Advanced Methods to Target and Eliminate Unlawful Robocalls Third Further Notice of Proposed Rulemaking (WC Docket No. 17-97 and CG Docket No. 17-59)

Dear Ms. Dortch:

Telnyx LLC ("Telnyx") respectfully submits the following comments to the Federal Communications Commission (the "FCC" or "Commission") in the above-referenced dockets, Advanced Methods to Target and Eliminate Unlawful Robocalls Third Further Notice of Proposed Rulemaking.

We agree that SHAKEN/STIR is a conceptually necessary accountability measure. However, without certain key adjustments (such as those proposed in Section II below), and without being pursued in parallel with IP interconnection, it will fail and harm competition and the end user.

I. The existing SHAKEN/STIR framework has problems, which left unchanged will have unintended and counterproductive results to competition and the end users.

A. SHAKEN/STIR unfairly burdens competitive providers reliant on least cost routing to drive value to end users.

SHAKEN/STIR will significantly burden competitive providers reliant on least cost routing ("LCR") mechanisms and prohibit them from fully attesting to calls.

As the Commission is aware, smaller, competitive service providers and enterprise businesses are heavily reliant, directly and indirectly, on LCR mechanisms. LCR is a process of analyzing, selecting and directing the path of outbound and inbound communications traffic depending on which path delivers the best rate. LCR enables smaller providers and enterprise businesses, which tend to be at the vanguard of innovation in the industry, to compete with incumbent providers. In its current form, the attestation requirement under SHAKEN/STIR would significantly harm these competitive service providers which use LCR to provide end users with the highest quality communications at the best rates.

We believe, based on the FCC's declaratory ruling on opt-out call-blocking robocalling mechanisms in conjunction with conversations held in ATIS's Packet Technologies and Systems Committee ("PTSC") and the ATIS/SIP Forum IP-NNI Join Task Force ("IPNNI") on attestation levels, that only fully attested calls

are likely to be properly terminated on the Public Telephone Network ("PTN") given the current SHAKEN/STIR framework.[1]

Accordingly, a fully attested call would require a smaller, competitive service provider relying on a resold number and LCR to attest that the calling party has authorization to use the phone number to originate that call. The problem is that full attestation becomes almost impossible where a smaller service provider selects the originating carrier based on cost in real-time. The process becomes overly burdensome and inefficient to achieve full attestation. This means that a terminating provider receiving a call without full attestation is likely to either make the assumption that the number has been inappropriately spoofed, signaling an illegal robocall, or at least be deterred from taking on the risk - the end result being the call being blocked from reaching the end user. This will have a detrimental effect on perceived reliability of the smaller providers and result in lost business.

Moreover, many of these smaller service providers, in addition to enabling dial tone for traditional conversation, also serve enterprise business customers who have built novel and legitimate communications tools which serve society as a whole, such as automated appointment reminders, school related notifications and community emergency alerts. The current SHAKEN/STIR model leaves attestation responsibility solely with the originating service provider, ignoring the enterprise use case. In industry discussions, large incumbent operators have mentioned that they plan to fully attest all calls originating on their network and can do so given their reputation in the industry as well-established and trusted entities. In this framework, smaller service providers will be disproportionately more likely to be blocked by larger providers if illegal robocalling is seen originating from their network, even if unintentional. Enterprise business customers understand the potential risk of non-delivery with smaller service providers who are unable to guarantee full attestation under SHAKEN/STIR. Consequently, enterprise businesses are more likely to send their business to large incumbent service providers that can guarantee full attestation. We have already seen this in practice with customers questioning the reliability of their traffic once SHAKEN/STIR is implemented.

This inability for smaller providers using LCR to always fully attest would undoubtedly harm overall competition within the industry, specifically smaller providers, which in turn would result in higher costs to the end user and suppress industry innovation.

B. SHAKEN/STIR will not be effective unless pursued in parallel with IP interconnection.

As currently proposed, the SHAKEN/STIR attestation framework relies on IP interconnection. An end user who receives a call which has left the IP network does not receive the benefits of SHAKEN/STIR. Therefore, regardless of any framework adjustments, it will not be effective without further adoption of the IP transition and additional access to IP interconnection.

Currently, many IP interconnections, specifically with large incumbents, are commercially inaccessible to service providers with smaller IP networks. These larger incumbents often require unconscionable financial commitments that smaller competitive providers are simply unable to meet. As an example, Telnyx was recently quoted a minimum monthly usage obligation of 100,000,000 minutes a month by an incumbent as

[1] *See Advanced Methods to Target and Eliminate Unlawful Robocalls et al*., CG Docket No. 17-59 et al., Declaratory Ruling and Third Further Notice of Proposed Rulemaking, FCC-CIRC1906-01 at 21, 46 (rel. May 16, 2019) (where the FCC states, "Full attestation indicates the greatest certainty that the caller is authorized to use the number, while partial and gateway attestation indicate less certainty but indicates where the call originated on the network" and the safe harbor should apply to service providers "that take into account whether a call has been properly authenticated under the SHAKEN/STIR framework and may potentially be spoofed.").

a threshold for negotiating an IP interconnection agreement. This stifles competition which in effect results in higher costs to the end users and suppresses innovation. IP interconnection is the way of the future, however, with robocalls continuing to be sent over the PSTN, SHAKEN/STIR will be rendered useless unless IP interconnection is pursued in tandem.

II. With changes to certificate availability, SHAKEN/STIR can meet its accountability goals and drive competition and value to the end user.

A. Direct enterprise certificate authorization will streamline regulatory and law enforcement access to commercially responsible parties.

Telnyx has been working on a solution with subject matter experts that would modify the proposed delegate certificate framework to allow large enterprises to apply directly for certificate authorization from the STI-PA and attest to calls they or their end users originate. Our proposal is modeled to increase transparency and accountability, similar to what is found in the LERG (as a result of the direct access to numbering resources provided to qualifying interconnected VoIP providers under the Commission's 15-70 order). Telnyx believes giving enterprise players attestation responsibilities will provide more streamlined regulatory and law enforcement access to bad actors and create a more trusted and equal SHAKEN/STIR framework.

A goal of SHAKEN/STIR is to more efficiently identify bad actors making illegal robocalls. Telnyx believes the current SHAKEN/STIR framework perpetuates the current problem by not stopping illegal activity at the source. Current frameworks allow bad actors to diversify their interconnections and continue to operate on other networks even if one service provider terminates their service. By allowing enterprises to obtain certificates, the STI-PA is able to quickly and efficiently revoke that enterprise's certificate if required, thus stopping all respective illegal robocalls from that bad actor. We believe the process to obtain certificate approval from the STI-PA should be burdensome enough, whether financially or through required evidence, to prevent bad actors from easily reobtaining a certificate. In addition, this proposed framework allows regulators and law enforcement to target bad actors directly, instead of only identifying where the call originated. As a result, more bad actors are likely to be tracked down and stopped from repeating illegal activities.

B. Direct enterprise certificate authorization will create a more trusted and equal SHAKEN/STIR framework that benefits both industry competition and the end user.

Telnyx believes the SHAKEN/STIR framework will become more trusted and secure by incentivizing all participants to responsibly use their certificates. Direct enterprise certificate authorization will help facilitate a framework where, due to the ease of its traceback capabilities and by distributing the responsibility of attesting calls and managing an STI-PA certificate to include enterprise players, there is more parity in the industry. Additionally, direct enterprise certificate authorization will encourage large incumbent operators to pass along upstream enterprise certificates, providing more detailed attestation information, as opposed to simply fully attesting to anything originating on their network.

Direct enterprise certificate authorization will level the playing field between large and small providers. We believe the existing proposed solutions do not go far enough in creating a competitive arena which incentivizes both small and large providers, and licensed and unlicensed industry participants, to innovate and compete to improve the end user experience. For example, one of the proposed solutions recommends service providers delegate certificates to their own enterprise business customers, which would, in theory, signal the authorized use of that number on other networks; however, given the continuous movement of

numbers between service providers (number purchasing, deleting, and porting) this system would be unduly onerous for both the service provider and the enterprise business. It is important to note that some service providers (like Telnyx) also fall into the enterprise use case, as many purchase number inventory from larger providers to fill footprint gaps. Direct enterprise authorization would mitigate any need for enterprises and service providers alike to constantly update delegated certificates. Instead, this solution places number-authorization responsibility and certificate risk on the upstream enterprise or service provider, creating a more trusted and equal framework.

Telnyx support the FCC's efforts to address robocalls, however, we strongly believe the existing SHAKEN/STIR framework needs modification so it does not inadvertently stifle competition and harm the end user. Telnyx plans on presenting our proposal in greater detail to IPNNI and PTSC at the August face-to-face meeting for further discussion and comments, and hopes to share the industry-vetted presentation with the FCC in the next round of comments.

Thank you for all your efforts and your time in considering our foregoing concerns. Pursuant to the Commission's rules, Telnyx is filing this notice electronically in the above-referenced dockets. Should you have any further questions about our comments, please do not hesitate to contact us.

Respectfully,

/s/ David Casem

David Casem
CEO, Telnyx LLC